UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
SAM NUNN
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA GEORGIA 30303-8960

June 21, 2010

Mr. Richard A. Hargis
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, PA 15236

RE: EPA Comments Regarding
Final Environmental Impact Statement (FEIS) for the
Kemper County Integrated Gasification Combined-Cycle (IGCC) Project
CEQ No. 20100181

Dear Mr. Hargis:

The U.S. Environmental Protection Agency (EPA), pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, reviewed the subject Final Environmental Impact Statement (FEIS) for the proposed IGCC power plant and lignite mine. The project also includes new electrical power transmission lines and upgrades of some existing transmission lines, a natural gas supply pipeline, a reclaimed water supply pipeline, and a carbon dioxide (CO_2) pipeline for offsite use in enhanced oil recovery (EOR). We appreciate your responses to our comments on the Draft Environmental Impact Statement (DEIS), which are included in Volume 3 of the FEIS. EPA's comments on the FEIS are detailed below.

The U.S. Department of Energy (DOE) proposed action is to provide cost-shared funding and a loan guarantee under the Clean Coal Power Initiative (CCPI) for the proposed Integrated Gasification Combined-Cycle (IGCC) Project. The DOE's proposed funding and loan guarantee do not include the lignite mine, although the FEIS evaluates the impact of permitting the mine as a related federal action for which U.S. Army Corps of Engineers (USACE) is the lead agency.

EPA Comments regarding the Final Environmental Impact Statement (FEIS):

We concur with the selection of the IGCC technology based on the emissions reduction advantages and the efficient use of the byproducts of the IGCC process. The use of reclaimed effluent and lack of process water discharges are measures to help reduce environmental impacts. In addition, the carbon capture aspect of the project calls for reuse of a portion of the carbon dioxide (CO_2) scrubbed from plant stack emissions. In the process of subsequent usage for offsite enhanced oil recovery (EOR), some portion of the injected carbon dioxide may be sequestered.

However, inherent environmental concerns exist regarding the direct and cumulative impacts of power stations and mining operations, and impacts should be monitored as the project progresses. We also have concerns regarding the air quality impacts of the proposed project with respect to the National Ambient Air Quality Standards (NAAQS).

Impact mitigation and fulfillment of commitments related to community outreach efforts will need to be finalized as the project progresses. Potential impacts of the proposed power plant and lignite mine include air quality, water resources, wetlands, waste, ecological, construction, EJ community, cultural resources, and cumulative impacts. Ash containment and spill prevention, post-mining stream and habitat reclamation, wetlands mitigation, and surface water/drainage pathways are of particular concern to EPA.

National Ambient Air Quality Standards (NAAQS)

The FEIS does not disclose the air quality impacts of the proposed project regarding the NAAQS for the NO_2 (1-hr) standard, which became effective on April 12, 2010, and the SO_2 (1-hr) standard, which became effective on June 2, 2010. This information should be provided.

Prevention of Significant Deterioration (PSD) permit

The Prevention of Significant Deterioration permit from the MDEQ addresses the types of control methods to be included for each PSD pollutant and estimates pollutant impacts on PSD Class I and II areas, including particulate matter emission limits. Since the State of Mississippi has responsibility for submitting the State Plan encompassing all coal-fired facilities in the State, allocating emissions, and overseeing the monitoring program, the applicant will need to continue coordinating with MDEQ on these issues.

Climate Change Issues

We note that ozone is primarily formed in the atmosphere rather than "emitted," and that NOx does not have a commonly agreed upon direct radiative forcing effect, but does influence the global radiation budget, (FEIS Volume 1, page 6-3). For more information, see the following reference: http://www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010_Chapter1-Introduction.pdf, page 1-2. We also note that the GHG Tailoring Rule is now final and available at: http://www.epa.gov/NSR/actions.html#may10.

While the EOR facilities to which the Kemper County IGCC project's CO_2 will be delivered may not be *designed* for long-term sequestration of CO_2 (FEIS Volume 1, page 6-9), the FEIS describes in some detail that a percentage, (presumably unknown for the specific injection sites), is nevertheless expected to stay in the reservoir permanently, (Volume 1, page 2-16).

We note that the stated range of 0.3 to 2.1 metric tons of carbon per acre per year for reforestation may be low, (FEIS Volume 1, page 6-7). EPA's publication "*Greenhouse Gas Mitigation Potential in U.S. Forestry and Agriculture*" is available at: http://www.epa.gov/sequestr/pdf/greenhousegas2005.pdf and reports a value of 1.1 to 7.7 tonnes (i.e., metric tons) as representative of CO_2 sequestration over a 90 to 120 year timeframe (time to

saturation) for reforestation (values are for average management of forests established after clearcut harvests). We also note that soil disruption during mining and burning, or burying of unmarketable vegetation will also modify the facility's predicted overall carbon budget.

Finally, it would be useful to cite the figure of 1 metric ton sequestration potential difference between forestland and grassland, (FEIS Volume 1, page 6-7).

Impacts to Waters of the U.S.

Approximately 30 acres of wetlands and 3,632 linear feet of stream would be impacted by construction of the power plant. During the planned 40 years of lignite mining, up to 2,375 acres of wetlands and 230,080 linear feet of intermittent and perennial stream would be impacted and an additional 68,000 linear feet of ephemeral stream. Up to 295 wetland acres could be impacted by linear facilities corridors.

Avoidance and minimization of impacts should be fully realized, as required by Section 404 of the Clean Water Act and the regulations that implement it (40 CFR Part 230). In particular, perennial streams, adjacent wetlands, and their buffers that have the potential to negatively impact Okatibbee Lake should be completely avoided. The applicant should also address downstream water quality and volume effects the mine may have on the lake.

Phasing of the project Clean Water Act 404 permits should be take place every 5 years, although the initial permit may be a longer time (8 years) due to project construction time. Project phasing will allow the most recent mitigation requirements be applied, and assure more certainty of mitigation success. For future phases where mitigation banks had limited credit availability, the project should make use of newly available mitigation banks to the maximum extent practicable. Currently, there are no mitigation banks within the watershed, and the applicant is encouraged to investigate the opportunity of establishing a single user bank for the future phased impacts.

The appropriate use of site protection instruments, (such as conservation easements or other legal instruments for protecting a compensatory mitigation area in perpetuity), will be required by the USACE for any permittee-responsible mitigation for the mining area and the IGCC site. Permittee-responsible mitigation refers to the restoration, establishment, enhancement or preservation of wetlands or streams undertaken by a permittee in order to compensate for wetland or stream impacts resulting from the project. Further requirements concerning mitigation are outlined in the 2008 Corps and EPA Mitigation Rule. The first phase of the project mitigation is being designed to comply with the Mobile Corp District's 2005 SOP requirements. The 2005 requirements are outdated and may not comply with the 2008 Mitigation Rule. All future phases should comply with the latest available mitigation guidance.

If the mitigation does not meet the established success criteria, EPA recommends that no further 404 permits should be granted for future phases until the mitigation site(s) have been remediated and are meeting the success criteria and goals. The same success criteria should also apply to water quality standards associated with the project. Monitoring for water quality impacts is essential, with adaptive management plans in place to address both how operations will respond

if data indicate a progression towards Water Quality Standard (WQS) violations or degradation of quality, and how future phases would be affected by violations of WQS. Baseline data from the proposed site and comparable mining operation sites will be important reference points.

Bioaccumulation

We appreciate your responses to our DEIS comments. Your response to comment EPA-12 (FEIS Volume 3, page 85) states that the fish tissue data from Okatibbee Lake that was used in the analysis of bio-accumulative toxic effects in the FEIS was obtained from the National Survey of Mercury Concentrations in Fish (1990 through 1995). This data may not reflect more recent concentrations of fish tissue mercury levels in Lake Okatibbee. Current data would allow for more accurate model inputs, and we recommend that you coordinate with MDEQ regarding updated fish tissue sampling data.

Monitoring

Based on EPA's review of the FEIS, environmental concerns exist regarding aspects of the proposed project, and impacts should be monitored as the project progresses. In particular, effluent discharges will be regulated under the NPDES permit and Mississippi Department of Environmental Quality (MDEQ) Surface Mine Control and Reclamation Act (SMCRA).

The FEIS states that the DOE will consider additional monitoring to confirm that there are no impacts to drinking water sources as a condition of the Record of Decision (ROD). EPA recommends that measures be taken to ensure the quality of drinking water, and documentation of these measures should be included in the ROD.

Coordination activities

The FEIS describes the project team's community outreach efforts and coordination with concerned organizations. The FEIS notes that a programmatic agreement for signature by the project team and Native American tribes is underway. The programmatic agreement will include historic preservation, evaluation and resource recovery procedures. In addition, the FEIS describes the applicants' ongoing initiatives involving partnering with local schools to improve the educational opportunities in the immediate area.

The FEIS addresses most of the socioeconomic and Environmental Justice (EJ) issues raised in the DEIS. While the power plant, lignite mine and associated infrastructure are located in rural areas with EJ populations, the DOE concludes that the project would not place high and adverse impacts on EJ populations while exporting all of the benefits, (e.g., jobs, direct and indirect economic benefits, etc.). The DOE indicates that air quality, water quality, and noise and health impacts may not exceed regulatory standards. In addition, transportation, housing availability, and aesthetic impacts to the EJ populations would be the same as for the general population.

While housing availability or transportation may be the same as the general population, the impact may be disparate due to preexisting conditions. For example, the influx of workers during the demonstration period could increase the demand, and ultimately the cost, for housing

in the area. Studies show that lower income households most often have a higher cost burden for both housing and transportation in all neighborhoods, and that these are the two largest expenses in most working families' budgets. This potential impact should be acknowledged, and any potential mitigation measures (i.e. housing or rental assistance), should be identified in the ROD. The FEIS also indicates that construction and operation of the proposed facilities could have positive economic effects for the EJ population by creating employment and direct and indirect income in the area.

EPA commends DOE on its initiatives regarding partnerships with area schools and organizations. We encourage the applicant to continue to provide opportunities for ongoing community engagement (i.e., Citizen Advisory Council) during pre-construction, construction and operational phases of this project. In addition, we encourage the applicant to continue to pursue a strategy of providing employment and training opportunities for local EJ populations within the vicinity of the project to ensure that they benefit equitably from the project.

The FEIS indicates that *"there would be an increase in traffic on area roadways resulting in a potential increase in accidents and injuries. The increase in truck traffic during the initial 6 months of operations involving transport of lignite from the Red Hills Mine would be especially severe. DOE would consider mitigation measures as a condition of the ROD."* EPA commends DOE on efforts to address worker and residential safety issues associated with increased traffic. We recommend that the DOE consult with the Mississippi Department of Transportation and/or Federal Highway Administration Mississippi Division on the development of these mitigation measures prior to issuance of the ROD.

The DOE dismissed alternative power generation technologies because they do not meet the CCPI program's purpose and need, nor do they meet those of the applicant. The FEIS notes that if any significant changes to the selected IGCC technology occur, DOE would assess the need for further evaluation, including further interagency coordination. EPA would expect additional NEPA evaluation and interagency coordination in the event that the selected IGCC project changes.

In conclusion, we appreciate the opportunity to review this FEIS and your continuing coordination with us. Please provide us with a copy of the ROD when it becomes available. If you have questions, please contact Ramona McConney (404/562-9615) of my staff.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Cc: Skip Young, P.G., USACE Mobile District